

Optimizing Bi-modal Signal/ Noise Reduction

A Fairy Tale

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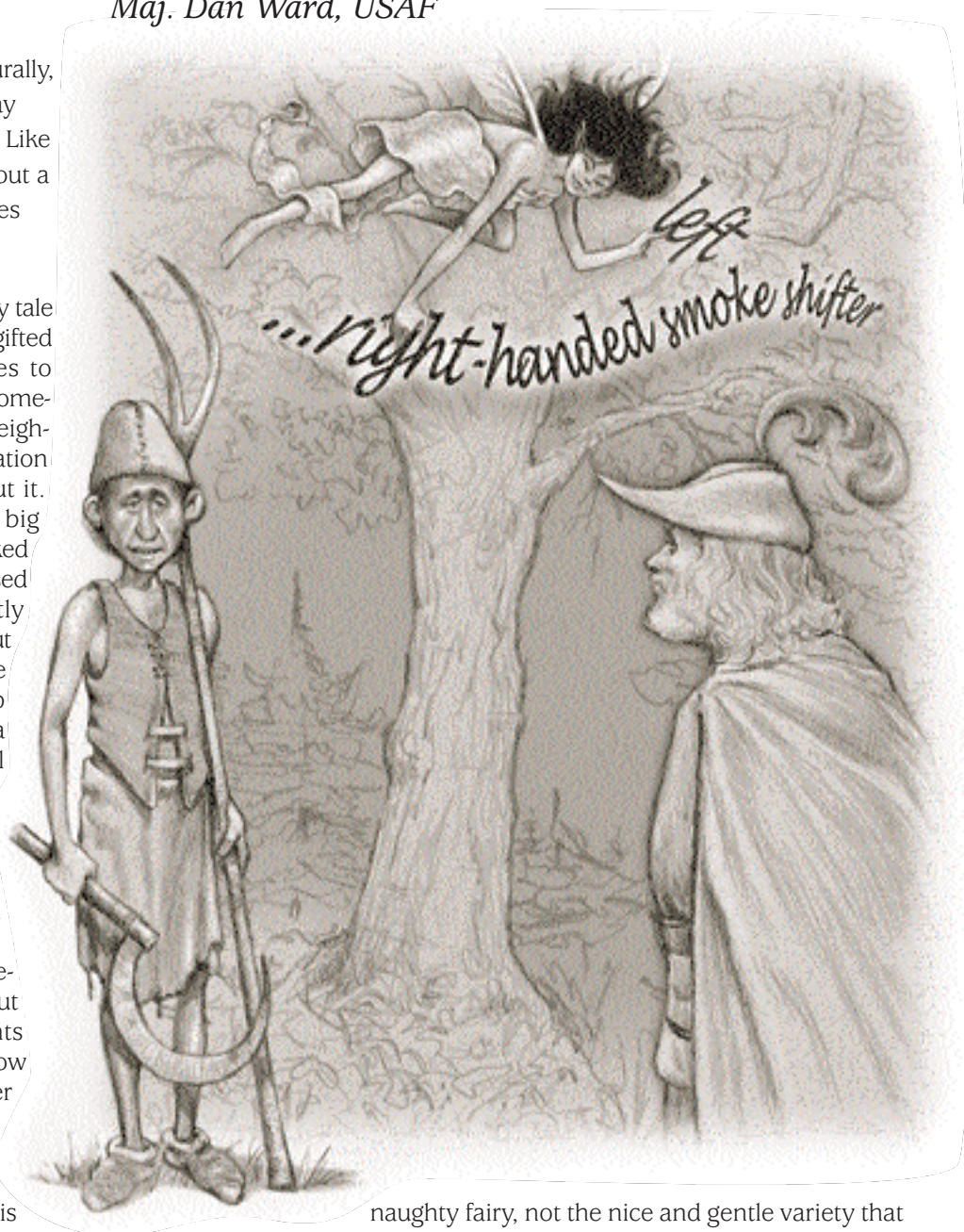
This is a fairy tale, so naturally, it takes place far, far away and Once Upon A Time. Like many fairy tales, it is about a boy named Jack who lives on a small farm.

Now Jack was a clever boy, as fairy tale Jacks often are, and marvelously gifted at fashioning wonderful devices to make farm life easier. Whenever someone in the local village or at a neighboring farm encountered a frustration or difficulty, they told Jack about it. Jack would listen carefully, eyes big and hands still. Sometimes he asked questions, and sometimes he closed his eyes to listen better. Presently he would get up and wander about his farm, collecting a bit of wire here, a block of wood there, a strip of leather, a flower, a pebble, a handful of hay. He had a small workbench upon which he would lay his treasures, as he used the bits and pieces to fashion a new axe handle, perhaps, or a butter churn or horse bridle.

Such care did he take that his delightful creations seldom wore out or broke. The fortunate recipients of Jack's skill always remarked how much smoother, lighter, and better were the products of his hands than anything they'd seen before.

As I mentioned at the start, this is a fairy tale, and we have arrived at the moment where the fairy herself must be introduced. I am sorry to tell you the fairy Jack encountered was a

naughty fairy, not the nice and gentle variety that shows up in certain other tales. She had suffered no offense, real or imagined, from Clever Jack, and thus had no excuse whatsoever for the mischief she caused.



Ward holds degrees in electrical engineering and engineering management. He is Level III certified in SPRDE, Level I in PM, T&E and IT. He has authored or co-authored 17 articles, an interview with pirates, and a poem for Defense AT&L. This is his first fairy tale.



From Our Readers

Ward/Quaid Punks Strike a Chord

Nicely written! [*"Everything We Need to Know About Program Management, We Learned from Punk Rock," July-August 2005.*] I'm a month out from taking over PMA-226, the Marine CH-46 helo program, and I've been reading everything I can find to get in the right frame of mind. Ward and Quaid's article did it. Who'd ever expect to find Gonzo writing in *Defense AT&L*?

Rock on,

Lt. Col. H. J. Hewson
U.S. Marine Corps

Turk and Gadeken Give Sound Advice

Wayne Turk's excellent article, "Quality Management—A Primer" in the July-August issue was chock full of practical tips, turning an abstract term (quality) into something tangible, and passing on expertise so that our younger, less experienced managers don't have to learn the hard way—by trial and error.

I especially liked the emphasis on keeping a management reserve. Thank you, Mr. Turk, for pointing out that it is not always popular, but is still a prudent thing to do. On all projects, unexpected things happen, so why not keep some extra funds to deal with extra work?

I also appreciated the emphasis on using Earned Value Management. Too often, especially in my area (software), people want to state that they're 50 percent, 80 percent, or 95 percent complete without any objective

basis for coming to such a conclusion. EVM sure beats gut-feel any day.

Perhaps the most important nugget was about requirements: avoid scope creep without additional funds; and prioritize requirements so that you know what can be eliminated if budget cuts come. Better to have a less functional product than no product at all!

More Than Rules

I also enjoyed Owen Gadeken's article "Ethics in Program Management" in the same issue. I agree strongly that organizational culture and leadership are critical factors in maintaining an ethical organization. I liked his analysis of value conflicts: "right vs. wrong" and "right vs. right." It's so easy for people to lose sight of the six pillars (basics) of ethics, and how hard it can be to follow all of them at the same time. I would like to add a third values conflict: "right vs. the appearance of wrong." Something can be legitimate (like taking a modest gift from a contractor) yet can give the appearance of not being okay. I suggest that people—especially leaders—avoid even the appearance of impropriety, as subordinates are always watching and following examples.

I think it is interesting that more people don't realize, as the article points out, that "ethics is ... much more than just a set of rules." The recent mandatory all-hands training on ethics seemed to me to be education on the rules, and not the values. I'd be interested in knowing what Dr. Gadeken thought of it.

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The fairy's name was Garble. Everyone agrees this is not a nice name for a fairy at all, and it may have accounted somewhat for her disagreeable disposition. Truly, how well behaved could a fairy be if she is given a name like that? Can you imagine a good fairy named Garble? Nor can I.

Being a naughty fairy, Garble would amuse herself by engaging in fairy mischief, such as hiding Jack's knife or pinching his leg. One day, a farmer came to Clever Jack asking him to make a new left-handed smoke-shifter. Garble was hiding in a shadow, listening to the men talk. When the farmer said "left-handed smoke shifter," Garble reached out and snatched the word "left" from the air between them and replaced it with the word "right." So Jack built a beautiful right-handed smoke-shifter. This did not suit the farmer at all, for as it happened, thanks

to an encounter with a sharp piece of farm machinery, he had only one hand, and it was not the right one.

The confusion pleased Garble greatly.

The situation with the farmer was soon put right—or rather, put left—and Jack went on about his business. But Garble loved her new game and poured all her effort into switching one word for another and generally making a mess of things (which naughty fairies love to do). Jack took great pains to make sure he understood the requests he received, and Garble took great pains to change every single one. Whenever a farmer said "left," Garble made sure Jack heard "right." To make sure he'd got the request right, Jack would repeat it, saying "right," which, thanks to Garble, sounded like "left" to the farmer. Both believed

they had heard and understood the other, even though they actually had not. This made Garble laugh and laugh as she lay down under her toadstool to sleep at night.

Poor Jack found it all very frustrating, and so did the local farmers. Jack decided the problem was that he was not being careful enough, so he began to be very careful indeed, which took a lot of time. Before Garble came on the scene, Jack would spend a few minutes listening to a farmer describe the thing he needed. But now he was spending hours or even an entire day, trying to make sure he understood the farmer's requirements so that the tool he built would be precisely what the farmer was asking for. Then he would spend weeks building even the simplest tools. But that naughty Garble made sure not one was ever right. Eventually, because things took so long and were always wrong, farmers stopped visiting Jack. This made Jack very sad. It made the farmers sad too. The only happy one was Garble.

For all Jack's cleverness, he didn't know what to do about this strange problem, or even what the problem really was (remember, Jack didn't know he was in a fairy tale, and he didn't know about Garble). But being a resourceful boy, when he didn't know what to do, Jack did something anyway. In this case, he took a walk. He walked and walked, past farms and orchards, past pigs and geese, past green hills and more green hills. And this was the best thing in the world he could have done.

If you've not read any fairy tales recently, particularly the old fairy tales, you may not know that most fairies are quite strictly tied to specific locations. A dryad, for example, is a fairy who lives in a tree, while a naiad is a fairy who lives in a stream. Neither can venture far from her home. I am afraid I don't know whether Garble was a dryad or a naiad, as there were both streams and trees near Jack's farm. It doesn't really matter. The important thing is this: When Jack wandered off, Garble was unable to accompany him.

Jack walked and walked until he came across a farmer named Ulla, who owned an apple orchard. Farmer Ulla was exceedingly sad because it was harvest time and his favorite apple-picker-on-a-stick had broken. Ordinarily, he would have brought it to Jack, but thanks to Garble, he didn't dare. That is why the good farmer was sitting by the side of the road, looking sadly out at his orchard and holding his broken picker. Jack walked past without saying a word.

To this day, nobody knows why Jack turned around. Maybe the wind was blowing just so, maybe the sunlight glinted off a shiny red apple, maybe the road itself turned him around. Perhaps Jack's magic shoes, if

they were magic shoes, brought him back to talk with Farmer Ulla. Or maybe he just decided to do it. Whatever the reason, Jack plopped down next to Farmer Ulla and said, "Hello." He asked about the apple picker. He turned it over in his hands, and then without further ado, he fixed it. Since Garble was far away, he fixed it with no problem whatsoever. Farmer Ulla was amazed! He jumped up, spun around three times, and got the hiccups. He then shook Jack's hand quite vigorously and ran off to finish the harvest.

*All it took was for Jack to walk around
and talk with the farmers on their own farms.*

Jack sat there, happily puzzled, and asked himself one of the nicest questions a person can ask: "What went right?" In order to answer that question, he had to ask himself a second one: "What was different about this situation?" As near as he could figure, the only thing different was the place. You see now how clever Jack was?

So Jack jumped up and ran off to the next farm. The farmer was building a fence and needed a two-handed hole digger. After a few minutes' conversation Jack was able to make one for him, right on the spot. The same sort of thing happened at each place Jack visited on his way back to his own house. Without Garble around to confuse things, Jack and the farmers were able to understand each other quite well.

All it took was for Jack to walk around and talk with the farmers on their own farms.

As long as Jack stayed out of Garble's reach, he and the farmers understood each other. If you needed a two-handed hole digger, that's exactly what you would get—never a two-holed hand digger, which is something hardly anyone needs. And that's how things went for the rest of Clever Jack's long, happy life (at least until the Invisible Giants came along. But that's a story for another day).

Of course, this is just a fairy tale. It took place in a faraway land that is nothing like the place where you live. And anyway, you don't believe in fairies like Garble, do you? Certainly not.

The author welcomes comments and questions. Contact him at daniel.ward@rl.af.mil.